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10/765,310	01/27/2004	Joo S. Choi	303.875US1	9397
21186 7590 06/30/2008 SCHWEGMAN, LUNDBERG & WOESSNER, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402				
EXAMINER				
LAPPAS, JASON				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/765,310

**Applicant(s)**

CHOI ET AL.

**Examiner**

JASON LAPPAS

**Art Unit**

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 March 2008.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-21 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 27 January 2004 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date 3/11/2005, 7/21/2005  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Inventor's Patent Application  
6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Election/Restrictions*

Applicant's election without traverse of group I claims 1-21 in the reply filed on 03/17/2008 is acknowledged.

Claims 22-115 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected groups, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 03/17/2008.

Claims 22-115 have been cancelled.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 6-8 and 13-15, and 20-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Royer (U.S. Patent 6,961,269).

The applied reference has a common assignee with the instant application.  
Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art

under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Claim 1. A device comprising:

a plurality of data transceivers for transferring input data and output data (162 transceivers are taught in Royer Fig 1 coupled to input and output select circuits);  
a plurality of write strobe transceivers for transferring timing information of the input data and for transferring a first group of auxiliary information (131, auxiliary information from 131 is sent to data path 122 Fig 1 and Fig 7. Data is shown to be timing information Col 5 lines 14-15.);  
a plurality of read strobe transceivers for transferring timing information of the output data and for transferring a second group of auxiliary information (141, auxiliary information from 141 is sent to data path 122 Fig 1 and Fig 7. Data is shown to be timing information Col 5 lines 14-15.); and an auxiliary circuit connected to the data transceivers and the write and read strobe transceivers for generating the first group of auxiliary information (Data Patch circuit 122).

Claim 8. A device comprising:

a memory array for receiving inbound data and for outputting outbound data (Royer 102 Fig 1);

an input data path for transferring the inbound data to the memory array (157);  
an output data path for transferring the outbound data from the memory array (155);  
a plurality of data transceivers for transferring input data to the input path as the inbound data and for transferring the outbound data from the output path as output data (addressed in claim 1);  
a plurality of write strobe transceivers for transferring timing information of the input data and for transferring a first group of auxiliary information (addressed in claim 1);  
a plurality of read strobe transceivers for transferring timing information of the output data and for transferring a second group of auxiliary information (addressed in claim 1);  
and an auxiliary circuit connected to the data transceivers and the write and read strobe transceivers for generating the first group of auxiliary information (addressed in claim 1).

Claim 15. A system comprising:

a processor (Royer Fig 8); and  
a memory device connected to the processor, the memory device including (Royer 804 Fig 8):  
a memory array for receiving inbound data and for outputting outbound data (addressed in claim 8);  
an input data path for transferring the inbound data to the memory array (addressed in claim 8);  
an output data path for transferring the outbound data from the memory

array (addressed in claim 8);  
a plurality of data transceivers for transferring input data to the input path as the inbound data and for transferring the outbound data from output path as output data (addressed in claim 1);  
a plurality of write strobe transceivers for transferring timing information of the input data and for transferring a first group of auxiliary information (addressed in claim 1);  
a plurality of read strobe transceivers for transferring timing information of the output data and for transferring a second group of auxiliary information (addressed in claim 1);  
and an auxiliary circuit connected to the data transceivers and the write and read strobe transceivers for generating the first group of auxiliary information (addressed in claim 1).

Claim 6 ,13 and 20. The device of claim 1, wherein the write strobe transceivers include at least one write strobe receiver connected to the auxiliary circuit for transferring the second group of auxiliary information to the auxiliary circuit (131-0, auxiliary information from 131 is sent to data path 122 Fig 1 and Fig 7).

Claim 7, 14, and 21. The device of claim 6, wherein the read strobe transceivers include at least one read strobe transmitter connected to the auxiliary circuit for transferring the first group of auxiliary information from the auxiliary circuit (141-0, auxiliary information from 131 is sent to data path 122 Fig 1 and Fig 7).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 9 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Royer (U.S. Patent 6,961,269) in view of Nakagawa (U.S. Patent 6,798,367).

Claim 2, 9 and 16. Royer discloses the device of claim 1 but does not disclose wherein the auxiliary circuit includes an inversion controller for conditionally inverting the input and output data.

Nakagawa discloses an inversion controller 13 Fig 2 for the purpose of detecting data flipping (Col 5 Lines 64-65).

Since Royer and Nakagawa are both from the same field of endeavor (outputting data), the purpose disclosed by Nakagawa would have been recognized in the pertinent art of Royer.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the inversion controller taught by Nakagawa in the circuit taught by Royer for the purposes of detecting data flipping (Col 5 lines 64-65).

Claims 3, 10 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Royer (U.S. Patent 6,961,269) in view of Nakagawa (U.S. Patent 6,798,367), further in view of Ergott (4,965,828).

Claim 3, 10 and 17. Royer and Nakagawa teach the device of claim 2, but do not disclose wherein the auxiliary circuit further includes a parity controller for generating a parity code of the output data.

Ergott teaches a output parity controller (Ergott 104 Fig 3A) for the purpose of driving the data bus with corrected data (Col 12 lines 27-35).

Since Royer, Nakagawa and Ergott both from the same field of endeavor (outputting data), the purpose disclosed by Ergott would have been recognized in the pertinent art of Royer and Nakagawa.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the parity controller taught by Ergot in the circuit taught by Royer and Nakagawa for the purposes of driving the data bus with corrected data (Col 12 lines 27-35).

Claims 4, 11 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Royer (U.S. Patent 6,961,269) in view of Nakagawa (U.S. Patent 6,798,367) and Ergott (4,965,828), further in view of Cooper (U.S. Patent Application Publication 2003/0174559).



Royer, Nakagawa, and Ergott disclose the device of claim 3 but does not disclose wherein the auxiliary circuit further includes a temperature reporter for generating temperature information of the device.

Cooper discloses a temperature sensor for the purpose of measuring operating parameters of the IC (Cooper, Abstract).

Since Royer, Nakagawa, Ergott and Cooper are from the same field of endeavor (processing data in memory), the purpose disclosed by Cooper would have been recognized in the pertinent art of Royer, Nakagawa, and Ergott.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the sensor taught by Cooper in the circuit taught by Royer, Nakagawa, and Ergott for the purposes of measuring operating parameters of the IC (Cooper, Abstract).

Claims 5, 12 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Royer (U.S. Patent 6,961,269) in view of Nakagawa (U.S. Patent 6,798,367) and Ergott (4,965,828), and Cooper (U.S. Patent Application Publication 2003/0174559), further in view of Ware (U.S. Patent 6,788,594).

Royer, Nakagawa, Ergott, and Cooper disclose the device of claim 4 but does not disclose wherein the auxiliary circuit further includes a calibrator for calibrating a timing of a transfer of the output data.

Ware discloses a calibration circuit for the purpose of insuring asynchronous timing (Col 12 Lines 53-54, Fig 15).

Since Royer, Nakagawa, Ergott, Cooper and Ware are from the same field of endeavor (processing data in memory), the purpose disclosed by Ware would have been recognized in the pertinent art of Royer, Nakagawa, Ergott, Cooper.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the calibrator taught by Ware in the circuit taught by Royer, Nakagawa, Ergott, Cooper for the purposes of insuring asynchronous timing (Col 12 Lines 53-54, Fig 15).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Lappas whose telephone number is (571 )270-1272. The examiner can normally be reached on M-F 7:30AM-5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on (571) 272-1852. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2827

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. L./

Examiner, Art Unit 2827

/Huan Hoang/

Primary Examiner, Art Unit 2827